

Atty. Docket No. YOR920030250US1  
(590.111)

**REMARKS**

This submission is made in response to the Non-Final Office Action dated May 4, 2006. Claims 1-19 are currently pending for examination, of which claims 1, 10, and 19 are independent; the remaining claims are dependent claims. In response Applicants have filed herewith an Amendment amending independent claims 1, 10, and 19. Support for these amendments can be found, *inter alia*, on page 8 lines 3-6 of the Specification.

Applicants and the undersigned are most grateful for the time and effort accorded the instant application by the Examiner. The Examiner is respectfully requested to reconsider the rejections presented in the outstanding Office Action in light of the foregoing amendments and following remarks. Applicants intend no change in the scope of the claims by the changes made by this amendment. It should be noted these amendments are not in acquiescence of the Office's position on allowability of the claims, but merely to expedite prosecution.

**Rejection of Claims 1-3, 10-12, and 19 under 35 U.S.C. § 102(b):**

Claims 1-3, 10-12, and 19 stand rejected as being anticipated by U.S. Patent 6,038,390 to Sofman (hereinafter Sofman ('390)) under 35 U.S.C. § 102(b).

As best presently understood, Sofman ('390) is directed towards a method of selecting spans for fiber cut simulations, wherein critical spans are identified such that they can be "cut" in a simulated program to determine whether the network has sufficient capacity to account for actual failures and cuts in the network. By cutting only the critical

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spans the system can minimize the number of simulated "cuts" necessary to test the network.

The system accomplishes this by graphically depicting a network as a group of nodes and spans. The system then identifies various demand routes between nodes along the spans and depicts these demand routes in a matrix. The system then identifies the critical spans as those that contain a unique set of demand routes passing through them. Such critical spans are the ones that the system identifies for "cutting" in order to test the network capacity (Figures 1-9, column 1 line 61-column 2 line 67).

Conversely, the present invention is directed towards a method/apparatus where actual problems in a network are detected by sending probes or command signals across the network comprised of multiple nodes. A set of probes is calculated by depicting possible probe routes in a dependency matrix format. A minimal or small set of probes that are capable of testing and isolating every node in a network is then determined by searching all possible probe routes exhaustively, by a linear determination, or a quadratic determination based upon various algorithms.

Applicants respectfully submit that a claim is anticipated under § 102 only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference (MPEP § 2131). Applicants respectfully submit that the disclosure in Sofman ('390) is not sufficient to anticipate independent claims 1, 10, and 19 under § 102.

Claims 1, 10, and 19, as amended, recite claim limitations as to a method step of/arrangement for **"diagnosing problems in the multiple node network based upon a**

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**success or failure of probes in the small probe sets.”** Applicants respectfully submit that Sofman ('390) does not contain any disclosed features corresponding to the above mentioned subject matter. Sofman ('390), as previously discussed, is directed towards minimizing the number of simulated “cuts” necessary to fully test network capacity. Sofman ('390) does not disclose a diagnostic system for **diagnosing** problems but a system for **simulating** problems. (Col. 1, lines 61-67).

The Examiner, however, asserts that Sofman ('390) discloses finding small sets that can diagnose the same problems as a candidate probe set in that Sofman ('390) discloses determining a minimal set of critical spans. Applicants respectfully submit that such calculation is not equivalent to the claimed limitation.

Identifying and testing the critical spans as the Examiner seemingly suggests will not diagnose all the possible problems that the candidate probe set would since only those critical spans and not all of the spans/nodes in the network will be tested. This calculation is critical for Sofman ('390) for simulation, not diagnostic, purposes. By identifying the minimal critical span set the number of simulated “cuts” necessary to test all of the demand routes in the network is minimized (col. 2 lines 1-67). The current invention on the other hand is directed towards diagnosing an entire network for actual problems via the smallest number of probes possible/feasible.

Sofman ('390) certainly does not disclose diagnosing problems in multi-node networks based upon the success or failure of the probes in the small probe sets, since the **simulated** failures or “cuts” are predetermined by the system according to where the

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critical spans are and are **simulated** and as such **are not diagnosed** via probes. Further rejection of claims 1, 10, and 19 on these grounds would therefore be improper.

For the foregoing reasons, Applicants respectfully submit that claims 1, 10, and 19, as amended, are allowable over Sofman ('390). Applicants respectfully request that the Examiner withdraw the rejection of claims 1, 10, and 19 for being anticipated by Sofman ('390) under 35 U.S.C. § 102(b).

Claims 2, 3, 11, and 12 are all dependent claims depending from independent claims 1 and 10 and as such are allowable over Sofman ('390) for at least the same reasons as the previously discussed independent claims 1 and 10. Applicants respectfully request that the Examiner withdraw the rejections of claims 2, 3, 11, and 12 for being anticipated by Sofman ('390) under § 102(b).

Applicants gratefully acknowledge that claims 4-9 and 13-18 have been indicated by the Examiner as being objected to for being dependent upon a rejected base claim, but allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Although the claims have not been amended as such, Applicants reserve the right to do so at any time.

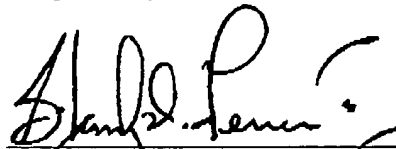
The "prior art made of record" has been reviewed. Applicants acknowledge that such prior art was not deemed by the Office to be sufficiently relevant to have been applied against the claims of the instant application. To the extent that the Office may apply such prior art against the claims in the future, Applicants will be fully prepared to respond thereto.

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In view of the foregoing, it is respectfully submitted that independent claims 1, 10, and 19 are fully distinguishable over the applied art and are thus immediately allowable. By virtue of dependence from allowable independent claims, it is thus also submitted that claims 2-9 and 11-18 are also allowable at this juncture.

In summary, it is respectfully submitted that the instant application, including claims 1-19, is presently in condition for allowance. Notice to the effect is hereby earnestly solicited. If there are any further issues in this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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